

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-14 are presently active in this case, Claims 1 and 4 having been amended and Claims 5-14 having been added by way of the present Amendment.

In the outstanding Official Action, Claims 1-4 were rejected under 35 U.S.C. 103(a) as being unpatentable over Beery (U.S. Patent No. 4,768,050) in view of paragraphs [0004] and [0005] of the present application. For the reasons discussed below, the Applicants request the withdrawal of the obviousness rejection.

The basic requirements for establishing a *prima facie* case of obviousness as set forth in MPEP 2143 include (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there must be a reasonable expectation of success, and (3) the reference (or references when combined) must teach or suggest all of the claim limitations. The Applicants submit that a *prima facie* case of obviousness cannot be established in the present case because the references, either taken singularly or in combination, do not teach or suggest all of the claim limitations.

Claim 1 of the present application recites a method of producing a heating roller comprising drawing a core of hollow cylinder form, and cutting an outer circumference surface of the core, wherein a thickness of the core is greater in a center portion thereof than in end portions thereof, and wherein the core is configured to receive a heat element within an interior thereof. The Applicants submit that the cited references, either taken singularly or

in combination, do not teach or suggest all of the above claim limitations, and that no motivation exists for making the proposed combination of references.

The Beery reference describes a two-roll pressure type developer that includes a first roll (10) and a second roll (12) mounted in parallel to each other. The first roll (10) is described as being hollow, or formed like a shell, providing a cylindrically true outer surface (30). A loading shaft (35) extends axially through the roll (10). The loading shaft (35) is a support shaft, and is joined to the roll (10) at the central loading region (32) thereof. The remote ends of the loading shaft (35) extend beyond the roll and define bearing surfaces (38) which receive roller bearings (40).

The Beery reference does not disclose a core that is configured to receive a heat element within an interior thereof, as recited in amended Claim 1. In fact, the Beery reference does not mention a heat element. Additionally, the Beery reference describes a first roll (10) with a loading shaft (35) extending axially therethrough, and does not include space therein for such a heating element. The Applicants submit that it would require substantial modification to the roll (10) of the Beery reference to even include such a feature. In fact, the Applicants submit that such modification would likely change the principle of operation of the roller (10), which relies upon the loading shaft (35) for support of the roll (10), such as at the central loading region (32). Accordingly, no motivation exists for such a modification of the teachings of the Beery reference based upon paragraphs [0004] and [0005] or another reference to arrive at the present invention.

Thus, the Applicants request the withdrawal of the obviousness rejection of Claim 1, and Claims 2 and 3 that depend therefrom.

Regarding Claim 4, the Applicants submit that the cited references, either taken singularly or in combination, do not teach or suggest all of the recited claim limitations.

Claim 4 recites that in the cutting step, the core is cut such that an outside diameter of the core is smaller in the center portion thereof than in the end portions thereof. The Official Action cites column 7, lines 49-52, of the Beery reference for such a teaching. However, the Applicants note that this portion of the Beery reference indicates that the roll (10) has a positive camber, which means that the roll (10) has an outwardly arched (e.g., convex) surface, as is represented by broken line (94) in Figure 2. Thus, neither of the cited references teaches a core that is cut such that an outside diameter of the core is smaller in the center portion thereof than in the end portions thereof, as recited in Claim 4 of the present application. Thus, the Applicants request the withdrawal of the obviousness rejection of Claim 4.

Newly added Claims 5-14 are considered allowable as they recite features of the invention that are neither disclosed nor suggested by the references of record. For example, Claim 5 advantageously recites a method of producing a heating roller wherein a difference of a thickness of the core between end portions thereof and a center portion thereof is set such that a nip width at the center portion thereof is substantially the same as that at the end portions thereof, and such that a difference of a temperature in a longitudinal direction of the heating roller, as the temperature is rising, is within a predetermined range. (See paragraphs [0069] through [0070] for support.) Such features are not taught by the cited references. Additionally, Claim 9 advantageously recites a method of producing a heating roller including a core of hollow cylinder form, wherein the core is configured to be provided with

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Reply to Office Action dated October 18, 2004

bearings on the outer circumference surface thereof. (See paragraph [0060] and figure 2 for support.) Such features are not taught by the cited references. Accordingly, new Claims 5 and 9 are believed to be allowable.

The dependent claims are considered allowable for the reasons advanced for the independent claims from which they depend. These claims are further considered allowable as they recite other features of the invention that are neither disclosed nor suggested by the applied references when those features are considered within the context of the independent claim from which they depend.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully Submitted,

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